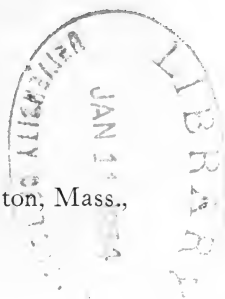




THE MYSTERY OF LIFE

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I

LIFE is the all-baffling mystery, the riddle of riddles before which our highest science stands puzzled and abashed. All things else lend themselves to creation by the skillful hand; this alone defies experiment. Near to us as the very air this nameless essence yet eludes us ever: we grasp for it and seize only on emptiness.

The microscopic eye of science traces this vital principle through planetary history to its first stirring in the earliest matter. It points to the primal cell, faintly throbbing, and says, "Lo, the beginning of life!" True beginning, however, it is not. The scientist has but re-enfolded the branched and leafy majesty of life into the acorn seed from which it sprang. It has thrust back into those first feeble pulsations the whole after-history of the animate world. Yet, though crowded into a particle of protoplasm, the phenomenon of life looms as large as ever. We have only reduced the problem to its lowest terms. Nor have we done more if we adopt a late, if not the latest, word of science upon this subject and suppose the germs of life driven to this planet from an inconceivable beyond under pressure of light. We only transport the mystery to the point of space whence these light-borne germs came hither, and this sphinx-like problem frowns still grim and silent.

The latest school of experimental biologists, with Dr. Jacques Loeb as their most conspicuous representative, have hunted the secret of life, as it might seem, to the very point of its entrance into matter. They have traced the mystery to its last holding place in the plasmic jelly of the primal cell. They have learned to dispense with nature's fertilizing principle in the generation of certain lower forms in the zoologic scale, and have created new and

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even monstrous types in the plant and lesser animal world. Yet the life principle remains as elusive as ever. The scientist may combine all the elements of protoplasm into what would seem to be the original life-substance, yet life itself is absent. He can improve upon nature's method of stirring the life-principle into activity, yet life itself he cannot create. Chemically constructed matter remains still inert and dead in his hands, despite all his efforts to galvanize it into vitality. It is fortunate, perhaps, that so many of those who have wrought in this field began with the assumption that life is chemical in its origin: we can be sure they have made the best case possible for their theory out of the startling results of their experiments.

Let those who would know the latest pronouncements from the laboratory upon this engrossing subject read the fine summary by Prof. Frederick Adams Woods in the *Popular Science Monthly* for April, 1910, noting in particular the portions dealing with artificial parthenogenesis; or the popular article, remarkably lucid and readable, by Edwin Tenney Brewster in the *World's Work* for April, 1907, entitled "Solving the Mystery of Life." The reader who makes a study of these papers will rise from their perusal filled with admiration for the daring and genius of the unconquerable spirits who have attacked experimentally this greatest of problems, but he will rise wholly unconvinced that the essential mystery has been touched.

II

The need seems inescapable for a great First Life, prior to all the clustering galaxies, which telegraphs its being into each new-forming creation. Bald assumption though it be, unbacked by any testimony of the senses, it is yet as necessary to wholeness of thought as is to the physical scientist the theory of a universal and all-pervading ether. Without this, speculation ends where planetary history begins. It is wholly unnecessary that this sublime Creative Principle be good or moral as those terms are understood by us, but we go hopelessly adrift if we try to think backward to the beginning of all things with the idea of an absolute Creative Force pre-excluded from our thought. It is only upon the idea of a Creative Life, in all and before all, that we can feel behind the laws of matter and energy

to something grander back of them, and can bind together in the tie of a common origin the bewildering profusion of worlds.

The conception, however, is not without its difficulties. Infinite in being, in might, and in wisdom as this Creative Essence must be to meet the needs of the problem, the thought yet seems too vast for the finite mind to contain. Clearly as we may see that the idea of a supreme power less than infinite in duration would imply an earlier and greater for which we could but blindly and vainly grope, plain as it may be that the belief in a great creative agent less than all-knowing and all-capable would suppose a wiser and mightier somewhere beyond,—manifest, we say, as all this may be, we are yet without the faculty for the larger thought; we cannot grasp the idea of a life without beginning, a power without limit, a wisdom of pure intuition and without bound.

Nor can the imagination suggest to us a dwelling-place for this sublime First Cause. A plane of life like our own is unthinkable; for before all matter, while yet time was not and the universe lay an unlit void, this absolute Creative Principle must have existed, infinitely wise and able. What habitation may the sensuous reason build for this resplendent Power? Where in the black abysms of uncreate space could this Being of beings have reigned and wrought?

But these, the greatest, are not the only difficulties that beset the problem. Aside from the inconceivable infinitudes of power and being which our notion of Deity implies, and apart from the idea of a perfect world affording boundless play to the divine qualities yet set away from matter as we know it, there is still an aspect of the mystery that must give us pause. In what way does the deific principle make its way to the centres of life? How far does the unmeasured Will at the heart of nature shape and sway the things about us of cell and scale, of leaf and limb? Is all that breathes and moves charged from the Fount and Source of being with an immortality that shall outlive the frame? Or, if man alone, then at what point in his career upward out of bruteness was he clothed upon, from the hand of the great Invisible, with this divine property?

III

These questions are big with meaning and moment. Upon them

the whole mystery of the creation hangs. Not a leaf stirs, not a star shoots, not a thought leaps in the brain of man, but these world-old questions cry out afresh for answer.

Answer, however, definitive and conclusive, none is thus far. Speculation has tried every avenue of conjecture, only to find the paths to clearer knowledge barred. Of Deity, of the problem of evil, of immortality, philosophers have sought to formulate theories that shall satisfy; but all theories have been cast aside in turn as hopelessly inadequate.

If, for instance, that part of man which outlasts the body is a gift from without, thrust upon the race at some golden hour in its long wayfaring up the creative ladder, then how shall we quell the objections that rise for answer? What proof may we offer of this sudden inflashing of celestial life? To what fact may we point, in nature or in the frame of man, as a testimony of the event? How shall we explain the heredity of this higher self down the chain of generations? How deny the immortal part to man's brute progenitor, yet accord it to the human imbecile whose power of reason is no jot above that of the brute?

If, on the other hand we say of the inner and immortal nature that it is a growth builded out of man's best and noblest, the quintessence of his deeds and days, difficulties every whit as formidable rise to perplex us. What shall be the fate upon this theory of those in whose hearts good and evil wage an ever-doubtful struggle? What the destiny of those in whom an inherited vice blackens a nature essentially generous and noble? What, upon this idea, becomes of the babe, all beauty and innocence, blasted like a flower in its very cradle?

Small marvel that upon these subjects, in all ages, the thoughts of men have faltered between blind faith upon the one hand and utter negation on the other! Strange and ungraspable as are the qualities we must weave into our conception of Deity, we may wonder little that the aching mind turns away from all notion of a Creative Intelligence, calling all things into being by the blasts of his will; nor, seeing the obstacles that beset the theory of a conscious after-life, can we chide the feeling which would settle all difficulties in that domain by wholly denying immortality to man.

IV

None the less, as we have seen, the idea of a great First Cause, uncreated and all-efficient, is one we cannot do without; and, if we are to believe the soul of man is a deathless thing, then no less can we do without some theory of its being that shall meet all difficulties. Upon this subject, as upon few others or none, we seem instinctively to harden our minds against speculation; and a fresh idea, which in any other field of investigation would be welcomed as the pledge and promise of advancing knowledge, seems in this dead realm but the laying of an overbold and irreverent hand upon a sacred subject,—an audacious overstepping of the bounds of inquiry set by nature and by nature's God. Such a feeling, however, heritage as it is from a creed-bound past, is unworthy a broad and generous mind. In this department of thought, indeed, where exactitude must ever lie beyond reach, speculation is the sole means to knowledge. It is only by trying theories, one by one, against the facts of life and science that we find the hypothesis at last which shall sort the broken gleams of truth into wholeness and order.

Man in origin is one with the creatures of fin and fur and feather. No lowliest thing that creeps or walks or flies but can trace its ancestry back into the pedigree of man. Even the plant is of our kind and can claim an ancient place in our family tree. Not alone is Millet's peasant "a brother to the ox,"—it is true of us all, highest and lowest alike. The sap that moves in the veins of the tree and the blood that moves in the veins of man and beast are in their far beginnings the same, and the germ which here becomes a man is scarcely distinguishable from the germ there which becomes a bird or that yonder which becomes a dog. The seed of all animate life is the simple cell, alike for one type and for all; and it is only by virtue of some invisible and inscrutable principle that here tabby or chancicleer is born, and there a Newton develops or a Shakespeare or a Wagner!

Seeing the oneness of man's origin with that of the brute, and remembering the sameness of his instincts and affections with those of the four-foot kind, we can but marvel at his arrogance in deeming himself the only embodiment of the Divine. Is fuller speech or an ampler reason just warrant for so large a claim? If so, at what

point in the history of the race upward out of brutehood shall we begin to press this claim? Man at an early stage of his career possessed an intellect no jot above that of the ape to-day and a speech far less expressive than that of the dog. Was his nature at that time an immortal one? If not, then when in his after-history did he take on the immortal nature and how?

One idea alone appears to yield us hope of escape out of this tangle—upon no other can we thread our way out of the labyrinth. If we are to keep fast both our faith in the evolution of the animate creation from lower to higher and our faith in a divine after-life for man, then to the same First Cause must we ascribe the life-principle in man and the life-principle in bird and beast and finny thing. Upon no fact in science can we found a distinction between the final cause of the one and of the other.

V

The hypothesis that shall unriddle the mystery of life is the hypothesis that shall apply to all forms of life alike. This essence is, as we can but think, the immediate outflowing of the Divine. Wherever our reasoning begins, we round the circle always to the same stopping point. Closer to us than the atoms of our flesh, yet defying our every sense, this all-precious, all-elusive thing must mark the fringe of the infinite beyond which thought cannot penetrate. It is a precipitate of the God-nature,—insoluble, unsolvable.

Life knows no great and no small. The immense gulf we place between ourselves and the humbler creatures, even to the lowest, rests only in our fancy. The hand of the barnacle, the claw of the spider, the eye of the crustacean, the lancet of the gnat, even the cilia of the microscopic rotifer, are as wondrous and ingenious as the organization of man. In nature's workshop the lowest has received as delicate a care as the highest; indeed, in its eyes, there is no lowest and no highest.

There seems no sacredness peculiar to human life. Man's superiority over the lesser creation appears to be only the triumph of intelligence. Nature fosters all forms of life, and each in turn it arms with weapons suited to its needs for battle and defence. In the eyes of the Creative Intelligence life is never unlovely. It is the

instincts of the venomous and ravenous creatures—the impulses and faculties born of their struggle for existence—which make those forms an ugly fact in the creation. Their principle of life is as beautiful as that of man.

We must find some way to link with Deity the lowest life that throbs. There is nothing so vile or so deadly that we may with safety exclude. Of the material universe each part is of a piece with every other,—so far, indeed, that our savants have grown bold and declare, with the mystics of old, that the whole stellar fabric is born from one primordial element, itself, perhaps, sprung from the universal ether. Of life we dare say no less. That, too, we must trace back to a primordial life-stuff, a first life-element, the original principle alike of the lower, impersonal and the higher, self-conscious being,—a sovereign Essence exhaled by the Master-life and as to which we are barely upon the threshold of knowledge.

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